

**ABSTRACT:**

An electric double-layer capacitor comprises a carbon composite electrode which serves as a polarizing electrode (31) and made of a single-layer carbon nanohorn aggregate having a specific structure and a very large surface area. The single carbon nanohorn aggregate is mixed with a phenol resin, the mixture is formed and heated to produce a carbon composite electrode. The carbon composite electrode is impregnated with an electrolyte to become a polarizing electrode. An electric double-layer capacitor comprising this polarizing electrode has a large capacitance and is capable of discharging with large current.